

1. In order from lowest urgency to highest, which sequence properly ranks the product categories issued by the National Weather Service? Note that not all product categories are issued for all hazard types.
 - a. Watch, Advisory, Outlook, Warning
 - b. Outlook, Advisory, Watch, Warning
 - c. Advisory, Outlook, Watch, Warning
 - d. Outlook, Watch, Advisory, Warning
2. The two components that determine the difference between an inconvenient weather situation and one that is hazardous are:
 - a. Event type and severity; duration
 - b. Event type and severity; community vulnerability
 - c. Event type and severity; location
 - d. Population at risk; infrastructure impacted
3. Severe weather season is around the corner. You would like to begin some public awareness efforts, as well as make sure your spotters are trained and organized. Who in the National Weather Service should you call to work with you on these activities?
 - a. Warning Coordination Meteorologist (WCM)
 - b. Science and Operations Officer (SOO)
 - c. Lead Duty Forecaster
 - d. No one; both of these tasks are your responsibilities
4. Suppose you are the emergency manager for the small community of Lake Isabella, California. Yesterday was the third consecutive day of near record high temperatures and today's Area Forecast Discussion contains this phrase: CONTINUED WARM TEMPERATURES AND VERY LOW HUMIDITY TODAY AND WEDNESDAY WITH POOR TO NO OVERNIGHT RECOVERY OF HUMIDITY. NORTH TO NORTHEAST WINDS WILL LIKELY BE GUSTING OVER 35 MPH...

What is the primary hazard you should be aware of for your community?

 - a. Damaging winds causing power outages
 - b. Heat stress for vulnerable populations
 - c. Increased wildland fire danger
 - d. Onset of a drought period

5. True or False. NOAA Weather Radio with SAME technology is programmable to sound alerts for hazards in your specific area, can be heard almost everywhere in the country, and can be relied on even if there is a power outage at your home or business.
 - a. True
 - b. False
6. You are working on a threats analysis for your community. Which of the following would be considered a variable environmental factor?
 - a. Soil saturation
 - b. Soil type
 - c. Locations of mountains or hills
 - d. Locations of dams
7. In two days your community is hosting the State baseball championship and expecting record crowds. The Day 2 Convective Outlook indicates your area could have severe weather on game day. As an emergency manager, you should:
 - a. Continue to monitor the forecast products and coordinate with the Weather Forecast Office
 - b. Discuss the situation with event organizers and suggest they review their safety plans for severe weather
 - c. Inform public safety agencies in your community about the severe weather potential
 - d. All of the above
8. Good warning messages for the public should:
 - a. Avoid mentioning possible consequences that may cause people to panic
 - b. Explain the possible consequences if the instructions are not followed
9. Your threats analysis should include analyzing the vulnerabilities of power generation, water, and sewage treatment facilities.
 - a. True
 - b. False

10. Methods for receiving weather information directly from your local Weather Forecast Office (WFO) include all EXCEPT which of the following?
- a. EMWIN or other message broadcast systems
 - b. NOAA Weather Radio
 - c. Local broadcast media
 - d. NWSChat and social media
11. An example of an indirect weather observation system is:
- a. Buoys
 - b. ASOS
 - c. Radiosondes
 - d. Radar
12. Long-range forecast products tend to be as accurate as short-range ones.
- a. True
 - b. False
13. It is July 16 and the Area Forecast Discussion you are reading mentions that instability is high. Your community is hosting a large art festival in an open park along the river. Which of the following represents an immediate action to take as you prepare for the day?
- a. Advise organizers to erect extra tents to protect artworks in case of rain
 - b. Alert festival organizers to the potential for thunderstorms later today
 - c. Suggest that organizers postpone the event because of the potential for storms
 - d. All of the above
14. Advisories are issued:
- a. For situations with high potential for flooding
 - b. For threats that are likely to occur a few hours or more in the future
 - c. For threats that are dangerous but that might not be life-threatening
 - d. When the threat or hazard is expected to impact a sparsely populated area

15. One of your spotters reports a tornado on the ground about 1.4 miles west of your community. The tornado is moving southeast. The National Weather Service has issued a Tornado Warning that includes your municipality. Which factor is NOT likely to be an influence in whether or not the residents of your community stay safe?
- a. You have sounded the sirens and communicated with local media about the threat.
 - b. Previously, you conducted a public information campaign to promote safe actions.
 - c. After a recent drill, you refined your phone contact list for major facilities.
 - d. Your emergency responders are activated and ready to remove debris from roads.
16. Today's Hazardous Weather Outlook refers to an inversion that is likely to break after 10:00 a.m. What conditions might you expect while the inversion persists?
- a. Skies will be cloud-free increasing visibilities
 - b. Any particulate matter near the surface will quickly disperse
 - c. Fog could be present in low-lying areas
 - d. Strong thunderstorms could result
17. Who is authorized to initiate official watches and warnings?
- a. The National Weather Service
 - b. Registered private weather information vendor
 - c. Certified broadcast meteorologist using Doppler radar
 - d. All of the above
18. Your Warning Partnership includes your local National Weather Service Forecast Office, you, and all of the following EXCEPT:
- a. The media
 - b. Police and emergency responders
 - c. Emergency Management Institute (EMI)
 - d. Weather spotters
19. Which of the following is included in a National Weather Service forecast discussion product?
- a. 10-14 day forecast
 - b. Forecaster reasoning
 - c. Comparisons of radar images
 - d. Temperature probabilities

20. The forecast product you read on August 30 mentions that a cold front will be moving through your locality in northern Iowa. The weather event you are likely to be most concerned about during this frontal passage is:
- a. A severe thunderstorm with possible hail
 - b. Steady precipitation and potential flooding
 - c. Frost affecting vulnerable plants and agriculture
 - d. Early season snowfall accumulating on tree limbs
21. You read in the forecast for today that strong westerly winds are expected. This means that the winds will blow from the west toward the east.
- a. True
 - b. False
22. A Watch means that:
- a. A hazardous weather event is imminent or occurring
 - b. Citizens should look for and take shelter immediately
 - c. A severe weather event has occurred in a nearby county
 - d. There is an increased risk of hazardous weather
23. Forecasting precipitation type (rain, snow, sleet, ice) is difficult because:
- a. It requires knowing the type and location of cloud nuclei in the atmosphere
 - b. The lifting process determines the precipitation type that is possible
 - c. It requires knowing the depth of the melting and freezing layers in the atmosphere
 - d. It requires knowing the depth of the moist and dry layers in the atmosphere
24. It's March 28 and today's water vapor image shows a uniform whitish-gray area over your state. What does this tell you about the weather to anticipate today?
- a. The image indicates high water vapor amounts and high potential for storms in my area today
 - b. The image indicates low water vapor amounts and low potential for storms in my area today
 - c. Additional information is needed to deduce potential hazards for my area today
 - d. Water vapor amounts are nominal and overcast skies should be expected today

25. When a life-threatening weather situation is occurring or is imminent, who has the responsibility to activate the local warning system within a jurisdiction?
- a. The National Weather Service
 - b. State emergency management officials
 - c. An elected member of city council
 - d. The local governmental jurisdiction
26. During a rain event, you observe heavy, wind-driven rain for 30 minutes. The dispatch center has received calls about small stream flooding on the southern edge of your community. You report this flooding to the Weather Forecast Office. They will use the information to:
- a. Input data into weather prediction models.
 - b. Map the areas that should be evacuated.
 - c. Refine their forecast to alert others in the storm's path.
 - d. Deploy an Incident Meteorologist to verify conditions.
27. A Winter Weather Advisory has been issued for your metropolitan area. Snow accumulation is expected to begin between 3 and 4 p.m. and continue through the evening. What action do you take?
- a. No action is required; an Advisory does not indicate a severe event
 - b. Refer to your Hazards Plan for snow events impacting rush hour in your area
 - c. Immediately scramble snow removal equipment to clear roads for the evening commute
 - d. Put the Emergency Operations Center on full alert and turn on highway warning signs
28. Uncertainties in forecasts are primarily due to which of the following?
- a. Meteorologists are not paying close enough attention to the evolving weather situation
 - b. Atmospheric processes are very complex, posing difficulties for both models and forecasters
 - c. The large number of observations input to the models means that guidance might be delayed
 - d. The overnight model forecasts are poor so meteorologists must use their own best judgment

29. Your local Weather Forecast Office has just issued a Severe Thunderstorm Warning for the western part of the county to your north. The system is moving to the southeast. What should you do?
- a. No action is required; the storm is not in my county
 - b. Dispatch spotter groups to the adjacent county
 - c. Monitor stream gauges for increased runoff from storms upstream
 - d. Monitor the storm's movement and prepare accordingly
30. True or False: A Tornado Watch has been issued for your county for the next three hours. One of the actions to take is to follow your Emergency Operations Plan's guidance on when it might be time to activate spotter groups.
- a. True
 - b. False
31. True or False: Geography is not a factor in assessing community risk.
- a. True
 - b. False
32. What should the word "convection" in a forecast discussion alert you to as an emergency manager?
- a. Upward-moving air with the potential for storms to form
 - b. A cold, sinking air mass causing potential heavy precipitation
 - c. Several days of overcast skies and continual rain or snowfall
 - d. An inversion in which air moves upward very rapidly
33. The Zone Forecast mentions: "CHANCE OF RAIN 60 PERCENT."

The correct way to interpret the forecast is:

- a. Sixty percent of the forecast area will receive rain and 40% will be dry
- b. Rain is likely to fall for 60% (or 14 hours) of a 24-hour period
- c. A given point in the forecast area has a 60% chance of receiving rain
- d. Sixty percent of the towns and cities in the zone will receive rain

34. You are the emergency manager in Applegate, a community located alongside a stream called Big Creek. Six miles to your northeast, near the headwaters of the creek, is a community called Bunker Hill. Your local weather forecast office has just issued this Special Weather Statement: NATIONAL WEATHER SERVICE DOPPLER RADAR HAS INDICATED A THUNDERSTORM CAPABLE OF PRODUCING PENNY SIZE HAIL. THIS STORM WAS LOCATED 3 MILES NORTH NORTHWEST OF BUNKER HILL...MOVING SOUTH AT 5 MPH.

Should you anticipate any potential hazards from this storm?

- a. Yes; the slow-moving storm could cause flooding along the creek and in areas downstream
 - b. No; penny size hail does not qualify the storm as “severe” so effects are expected to be minimal
 - c. No; based on the direction of travel this round of storminess will not affect my area
 - d. Yes; the storm could intensify and require the Emergency Operations Center to issue a Flash Flood Warning
35. True or False: The latest hurricane intensity forecast indicates a 20% probability for a Category 2 storm, 39% probability for Category 3 storm, and 28% probability for a Category 4 storm tomorrow afternoon as it approaches your area. Guidance for working with probabilities would suggest that you anticipate the worst-case scenario by preparing for a Category 5 event.
- a. True
 - b. False
36. A train has derailed in your community, resulting in a hazardous materials release. Resources available to you from the National Weather Service include all EXCEPT:
- a. Customized wind forecasts to help determine areas that might be impacted
 - b. Incident meteorologists who can monitor conditions and provide “spot” forecasts
 - c. Dispersion modeling to determine how the materials will be transported
 - d. Anticipated health impacts of the hazardous substances

37. The Forecast Discussion says "A WEAK PRESSURE GRADIENT IS EXPECTED TO PERSIST, KEEPING RAIN OVER THE AREA FOR SEVERAL DAYS."

From a preparedness point of view, this phrase suggests that:

- a. You should be ready to respond to downed power lines, etc.
- b. You should stay alert for potential flooding
- c. You should be alert for severe storm development
- d. There is nothing weather-related to concern you

38. Who issues Tornado Watches?

- a. Convective Weather Prediction Center
- b. Hydrometeorological Prediction Center
- c. Storm Prediction Center
- d. Private sector weather providers

39. Tornadoes are small, short-lived storms formed on the:

- a. Synoptic scale
- b. Mesoscale

40. Today's Area Forecast Discussion for your municipality north of Canton contains this phrase:

AN AREA OF ENHANCED LIFT IN THE 850MB-700MB LAYER CONTINUES TO AFFECT LOCATIONS NORTH AND WEST OF A CANTON TO TOLUCA LINE. TO THE SOUTH SKIES WERE PARTLY CLOUDY WITH EARLY AFTERNOON TEMPERATURES RISING INTO THE MID/UPPER 70S...

As an emergency manager, what might you be concerned about based on the word "lift"?

- a. Long-duration stratiform rain showers
- b. Warmer air aloft with cooler air near the surface
- c. Debris lofted by tornadoes
- d. Developing storms, precipitation, instability

41. As an emergency manager, what are your four primary roles in planning for and acting during periods of hazardous weather?
- a. Detect, Forecast, Alleviate, Recover
 - b. Mitigate, Prepare, Respond, Recover
 - c. Prepare, Defend, Recover, Respond
 - d. Prepare, Act, Recover, Respond
42. Which is a method that local Emergency Operations Centers can implement to improve coordination with partners prior to a hazardous event?
- a. Hold topic-focused conference calls and webinars
 - b. Conduct drills to practice coordination and test response
 - c. Develop hazards plans for any threats to your community
 - d. All of the above
43. Condensation is a process that can lead to precipitation, flooding, and storm development. Condensation can occur and begin providing the fuel for severe weather when:
- a. The probability of precipitation equals 100%.
 - b. The dewpoint temperature is significantly less than the air temperature.
 - c. The dewpoint temperature is warmer than the surrounding air temperature.
 - d. The dewpoint temperature equals the air temperature.
44. You have just arrived at the office this morning. What is the best source for quickly determining the potential for severe thunderstorms today?
- a. Check the local Weather Forecast Office hourly storm summary
 - b. Check the Convective Day 1 Outlook
 - c. Check in with your Warning Coordination Meteorologist
 - d. Consult a farmer's almanac for today's forecast
45. If a community has warning sirens, other communication methods will not be necessary.
- a. True
 - b. False

46. A Tornado Watch has been issued for your county through 11 p.m. this evening. Which of the following is the best source to make sure you have the earliest possible information about any Tornado Warnings issued for your area?

- a. Local Weather Forecast Office
- b. Local broadcast media
- c. Storm Prediction Center
- d. All of the above

47. After a winter of above-average snowfall, temperatures in your area have been moderate and rainfall has been near average. On April 10, you find this phrase in the Hazardous Weather Outlook from your local forecast office: UPPER LEVEL DISTURBANCES WILL CONTINUE TO MOVE NORTHEAST ACROSS THE REGION TODAY. THESE FEATURES WILL INTERACT WITH A MOIST AIRMASS TO GENERATE NUMEROUS SHOWERS WITH LOCALLY HEAVY RAINFALL.

What is the most likely hazard that you should be alert to?

- a. Tornadic winds
- b. Lightning-generated fires
- c. Severe storms with hail
- d. Potential flooding

48. What factors should you account for when doing a threats analysis for your community?

- a. What weather events are likely and at what time of year
- b. Percentage of population and property likely to be affected
- c. Expected impacts of the hazard on critical infrastructure
- d. All of the above

49. Which of the following is NOT a consideration for a threats analysis?

- a. Distance to nearest weather forecast office
- b. Frequency of hazardous weather
- c. Severity of past and anticipated weather events
- d. Locations of special needs populations

50. It has been an above-average snowy winter in your area of the upper Midwest. On a cloudy day in early spring, you find this phrase in the Area Forecast Discussion: RAIN AND SNOW SHOWERS WILL PERSIST ACROSS THE FORECAST AREA OVER THE NEXT COUPLE DAYS. SOME LIGHT ACCUMULATIONS ARE POSSIBLE WITH TEMPERATURES REMAINING IN THE LOWER 30S. TEMPERATURES WILL RECOVER RAPIDLY OVER THE NEXT COUPLE DAYS...INTO THE 50S BY SATURDAY.

What weather hazard might you need to prepare for in your community?

- a. Severe thunderstorms associated with warmer temperatures
- b. Continued dramatic temperature changes
- c. Flooding due to ice jams on rivers
- d. Late-season winter storms